

Safety of fire alarm

Life



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In 1600, years ago there was Members of the community who's responsible to announce people if there is fire by blowing a whistle or ringing a church bell, years later the fire alarm was designed with new features. There are four types of fire alarms which are Ionization, Video-Based Detectors, Flame Detectors and Combination Detectors.

Fire alarms can give you an early signal to something that could be terrible - basically saving your lives. There are many benefits of having fire alarms such a 24/7 monitoring, early detection, avoid smoke inhalation and easy ; affordable and we will discuss each one in details below.

Some real life situations that influenced society like the story of a Mother who lost 7 kids in Fujairah fire and the address hotel fire accident.

Introduction

Fire alarm has a several of devices that work together to discover and warn people through visual and audio appliances when smoke, fire, carbon monoxide or other emergencies are present. Fire accidents happens a lot since 1600 till now and fire alarm before was not developed as now, in 21 century the fire alarm has been developed in many types which decrease the number of fire accidents and deal with all types of fires, even the interior civil defence general headquarters provide people to Installation of fire detectors in their homes because the number of fire accidents increased since last years which comes from lack of awareness, Faulty electricity, and high temperature.

Fire alarm has a lot of benefits which can safe people lives and save a lot of positions. History in 1600, years ago, there was Members of the community

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who's responsible to announce people if there is fire by blowing a whistle or ringing a church bell.

Later in 1850 Moses Farmer and William F. Channing designed a fire alarm, the designed consist of two fire alarm boxes and each of them have telegraphic key, when someone within the premises identified a fire or the risk of a fire, they'd race to the handle and wrench it. As the telegrapher at the station received the message, then the operator there will relay it along the fire department to response of the box location.

In 1890, Francis Robbins invented the design of modern life alarm. His design was not popular and receive little attention, after not along time people recognized the importance of fire alarm and it was widely used in places where can happen especially in cities and large towns where the fire departments must respond to the fire quickly.

In 21 century the first fire alarm modern was developed, this alarm was working without wires and use a different type of technologies such as cellular transmitters, private radio systems and digital communicator systems. This modern technology allows the fire alarm signal to be transfer to the nearest fire department in seconds so that a fire fighting team can be dispatched

Types of fire alarm:

Ionization An ionization smoke indicator contains a detecting chamber comprising two electrically charged plate and a radioactive hotspot for ionizing the air between the plates.

An ionization smoke indicator works attractively on a wide range of flames, it reacts more rapidly to blazing fires than photoelectric smoke identifiers. The ionization locator is a programmed resetting type and is most appropriate for rooms that contain profoundly burnable materials, for example,

- Cooking fat
- Newspapers
- Paint
- Cleaning arrangements

There are two essential sorts of air-examining smoke indicators. The most widely recognized one is the cloud-chamber write. This detector uses a small air pump to draw sample air into a high humidity chamber within the detector. The detector triggers an alarm signal when the density of this cloud exceeds a predetermined level.

The second type of air-sampling smoke detector is composed of a system of pipes spread over the ceiling of the protected area. A fan in the controller unit draws air from the working through the funnels utilizing a photoelectric sensor.

Types of Detectors:

- Duct Smoke Detectors: Duct smoke detection serve to protect the air conditioning system itself from fire and smoke damage, and to assist in equipment protection applications. For instance, in the ventilation work of centralized server PCs and tape drives.

Applications:

- Downstream of the air channels and in front of any branch associations in air supply frameworks having a limit more prominent than 2, 000 cfm (944L/sec).
- Return framework smoke finders are not required when the whole space served by the air circulation framework is ensured by an arrangement of zone smoke locators.
- Fan units whose sole capacity is to expel air from inside the working to outside the building. Duct smoke detectors are specifically listed for installation within higher air velocities and they are no substitute for other types of smoke detectors in open areas.
- Video-Based Detectors: state-of-the-art fire detection technologies and enables early detection of smoke and flames in environments where these cannot response times, for example, structures with high roofs or dusty and muggy zones. The video-based fire detection system scales well from a single camera to a networked system of distributed cameras with a central console and management system, it can relay alarms to an existing fire alarm panel or transmit them by means of Ethernet to a checking focus or even a cell phone like an iPad. By getting HD quality video pictures continuously gives the firefighters a decent comprehension of the present circumstance even before they are in contact with the scene. Cameras are easy to install and require very little maintenance in contrast to state-of-the-art smoke and flame detectors. The utilization of PoE cameras (Power over Ethernet) can wipe out the requirement for singular power supplies and power links, making it significantly more cost-effective it can likewise be utilized for little and disseminated offices, for example, control stations and flag

boxes where the advantage does not legitimize the establishment of the flame board. A few points of interest of video-based locators:

1. Ability to protect a larger area, while still achieving fast detection. In many large facilities with excessive ceiling heights, designers find it impractical to use conventional smoke detection devices it can detect smoke or flame inside the field of the perspective of the camera.
 2. Ability to have live video quickly accessible after identifying a pre-alert or a caution condition.
- Flame Detectors: (light identifier) is a sensor designed to detect and respond to the presence of a fire. It responses to a detected flame depend on the installation but can include sounding an alarm and activating a fire suppression system, an effective in monitoring large areas, such as an aircraft hangar or computer room.

Fire indicator distinguish light in the bright wave range (UV identifiers), infrared wave range (IR finders), and identify light in both UV and IR waves these kinds of locators are among the speediest to react to flames, they are likewise effortlessly enacted by such non-fire conditions as welding, daylight, and other splendid light sources.

They should just be put in place where these triggers can be stayed away from or restricted. They must also be positioned so that they have an unobstructed view of the protected area, if they are blocked they can't enact. A flame detector can often respond faster and more accurately than a smoke or heat detector due to the mechanisms it uses to detect the flame. They are additionally worked same as video-based identifiers.

- Combination Detectors: alerts that either distinguish both warmth and smoke or utilize both the ionization and photoelectric procedures. Include fixed-rate detectors, heat detectors, and fire-gas detectors. These mixes give the locator the advantage of the two administrations and increment their responsiveness to flame conditions.

Depending upon the plan of the framework, various combinations of the previously described detection devices may be used in a single device.

Photoelectric smoke identification takes a shot at a wide range of shoot and typically reacts more rapidly to smoldering fires than ionization smoke detection.

Photoelectric smoke detection is most appropriate for zones containing overstuffed furniture and different territories where seething flames can happen. A photoelectric gadget comprises a photoelectric cell combined with a light source.

The photoelectric cell works in one of two approaches to distinguish smoke: projected-beam application (obscuration) or refractory application (scattered). The projected-beam application style of photoelectric finder utilizes a light emission centered over the territory being checked onto a photoelectric-getting gadget, for example, a photodiode. The cell always changes over the bar into the current, which keeps a switch open.

At the point when smoke meddles with or darkens the light pillar, the measure of current created is reduced. The detector's circuitry senses the change in current and initiates an alarm when a current change threshold is crossed. Projected-beam application smoke detectors are particularly useful

in buildings where a large area of coverage is desired, such as in churches, atriums, or warehouses.

Rather than wait for smoke particles to collect at the top of an open area and sound an alarm, the projected-beam application smoke detector is strategically positioned to sound an alarm more quickly. A refractory application photoelectric smoke detector utilizes a light emission from a light-emitting diode (LED) that goes through a light chamber at a point removed from the light source.

Regularly, the light does not strike the photocell or photodiode. At the point when smoke particles enter the light bar, light strikes the particles and reflects in irregular ways onto the photosensitive gadget, making the locator produce an alert flag. Benefits of having fire alarm Many people don't consider fire alarms seriously, and many do not test or check their alarm systems routinely.

The only thing that can caution you, your family and colleagues all day, every day from a fire is the sound of a well installed and maintained fire alarm system. Fire alarms can give you an early signal to something that could be terrible - basically saving your lives. There are many benefits of having fire alarms such as 24/7 monitoring, early detection, avoid smoke inhalation and easy & affordable and we will discuss each one in details below.

24/7 MONITORING

A fire alarm system gives protection 24 hours a day, every day of the week. The place will be monitored all the time from morning until night. So, people can

feel safe in every place that has fire alarm system, because they know that this monitoring never stops.

EARLY DETECTION

The earlier a fire is detected, the quicker it will be that firefighters will react. This can mean you may avoid major damage or even worse, the complete destruction of the place.

AVOID SMOKE INHALATION

The most important reason is perhaps the only one you really require. This can save as many spirits as possible especially at the house. This is particularly significant during the evening time. Anyone who is sleeping may not be awakened in time if a fire begins. Many times, people die of smoke inhalation while trying to escape.

At the bottom line, having a system in place can give you peace of mind, safety, and security. Avoid losing irreplaceable items Having a system is very reasonably priced. Regardless of whether you have insurance that can compensate any lost items, many of them are irreplaceable. This would include photoalbums, gifts from relatives or items passed down from one generation to the next.

You also would be severely inconvenienced by having to live somewhere else for at least some time. At the end, there is the emotional trauma of losing your home and properties. Real life situations and solutions One of most horrible fire accident happens when a mother lost her 7 kids because of fumes rise in the house and inhalation of the children while sleeping cause them to death, after this accident, Maj.

Gen. Mohammed bin Ghanem Al Kaabi, Commander-in-Chief of the Fujairah Police, stressing the need to install smoke detectors in the homes because of their proactive role in warning families with fire, and spare them lives and property.

Brigadier Mohamed Al-Nuaimi pointed that the percentage of fire houses and private houses reached 57% of the fires building and installations in 2016, which let the general defense command advice people to install smoke detectors in their houses under the logo " smoke detector for your home safety", also they specified a period from 2016 December till the end of 2017 to community awareness of the importance of protecting the houses by installing a smoke detector to prevent fire death and injuries

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ARABIC 1 : Address Hotel by Bruce Szczepanski0Figure SEQ Figure

ARABIC 1 : Address Hotel by Bruce Szczepanski4600575000A luxury hotel the Address Downtown Dubai hotel, (2015 December 31) Thursday 9: 30 p. m. (12: 30 p. m. ET) the fire started while a stunning New Year's fireworks display lit up the night sky nearby.

Orange tentacles of flames engulfed a large section of the high-rise soon after the fire started around. According to the Dubai Media Office, 14 people were slightly injured, and one was moderately injured, but the firework show still went on as planned; by midnight, authorities had treated the fire to be 90% contained. On 20 January 2016, Dubai Police held a news conference to confirm that an electrical short circuit caused the fire.

The forensic has identified that the short circuit was caused by electrical wires of the spotlight used to illuminate the building between the 14th and the 15th floor.

The General Command of the Civil Defense has taken some decisions which decrease the number of fires and deaths results by setting operational plans at all the levels of civil defense departments and the objective is to keep the people awareness from fire accidents and to check the report (Monthly, quarterly, semi-annually and yearly), as well as focusing on internal and strategic exercises of civil defense to respond quickly to any fire accident request, in addition to this there has been a qualified officers of the civil defense to accomplish the mission of inspection for building to see whether these building and centers are following the Protective conditions where 4167 buildings have been inspected by the centers officers.

According to the general commander of the civil defense Maj. Gen. Jassim Mohammed Al marzouqi revealed that in 2016 the percentage of fire of buildings and facilities is 30% compared in 2015, where the number of fires reached 3388 and 2352 in 2016 which mean decrease in deaths number from 33 in 2015 to 16 deaths in 2016 by 52%, and house fires fell by 7% in 2016 compared to 2015.

Conclusion To conclude, fire alarm consists of three types which are Ionization, Video-Based Detectors, Flame Detectors and Combination Detectors. There are many benefits of having fire alarms such a 24/7 monitoring, early detection, avoid smoke inhalation and easy ; affordable.

Fire alarm is very important not only in hotels and buildings, but also in houses because a lot of fire accidents happens inside houses and many lives are lost like a mother who lost her 7 kids, our advice that every home should have a fire alarm to reduce the number of accidents and to save to protect whom we love.

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